



PRESSIONE  
MASSIMA  
DI SCARICO **10 bar**



- Ensures system efficiency
- High discharge capacity.
- High performance (max. discharge pressure 10 bar)
- Bi-directional.

## PRODUCTION RANGE

Code	Size	Connections
<b>2830.09.72</b>	DN50	Flanged PN16
<b>2830.10.72</b>	DN65	Flanged PN16
<b>2830.11.72</b>	DN80	Flanged PN16
<b>2830.13.72</b>	DN100	Flanged PN16
<b>2830.14.72</b>	DN125	Flanged PN16
<b>2830.15.72</b>	DN150	Flanged PN16

## DESCRIPTION

### THE PURPOSE:

*RBM Airterm* in-line deaerators are devices suitable for eliminating micro-bubbles from systems.

They are essentially made up of two parts:

- **ACTIVE:** The zone where microbubbles are formed as a result of strong turbulence and swirling motion. Microbubbles blend together, becoming bigger bubbles.
- **PASSIVE:** Float-operated air vent valve to eliminate air bubbles.

**Deaerators operate systems with air-depleted water**, therefore able to absorb the air bubbles nestled in the system critical areas.

By removing air from the system, unnecessary breakdowns and malfunctions can be reduced, helping to:

- Increase heating and cooling efficiency
- Reduce the formation of corrosion in all points of the system
- Reduce extraordinary maintenance work
- Reduce the effects causing system noise
- Lower the cost of system management

### USE:

*RBM Airterm* in-line deaerators are used in **heating and cooling systems**. They ensure eliminating the air that is continuously formed in systems. For more specifications, please see the "USE / INSTALLATION" section of this data sheet.

### CAUTIONS:

To be always installed in a **vertical position**, with the air discharge device facing upwards.

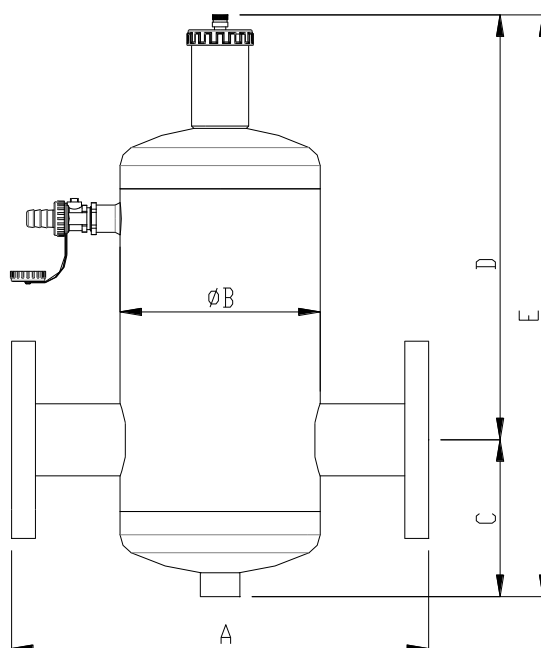
## CONSTRUCTION FEATURES

- Body: Steel painted on the outside
- Elastomers used: EPDM PEROX and NBR
- Float: With levers made of polypropylene resin
- Spring: AISI 302 stainless steel
- Connections: Flanged PN16

## TECHNICAL FEATURES

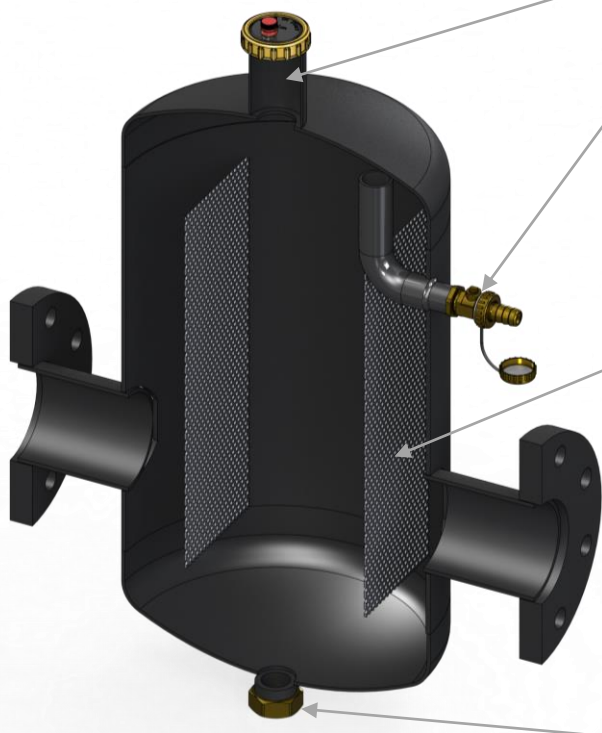
- Usable fluid: Water  
Water + glycol 30%
- Maximum fluid temperature: 110°C
- Maximum operating pressure: 10 bar (1000 kPa)
- Maximum discharge pressure: 10 bar (1000 kPa)

## DIMENSIONAL FEATURES



Code	Size	A [mm]	Ø B [mm]	C [mm]	D [mm]	E [mm]	Weight [kg]
2830.09.72	DN50	350	168	131	356	487	14
2830.10.72	DN65	350	168	131	356	487	15
2830.11.72	DN80	470	273	200	425	625	26
2830.13.72	DN100	470	273	200	425	625	29
2830.14.72	DN125	635	323.9	254	524	778	52
2830.15.72	DN150	635	323.9	254	524	778	55

## STRENGTHS / WORKING PRINCIPLE



### PASSIVE PART: Megaluft.

High-performance air vent valve (discharge guaranteed up to 10 bar).

### Side ball valve with hose connection:

It has the dual function of:

- Supporting the automatic air vent valve to discharge large amount of water following maintenance work or after the system has been filled.
- To discharge any impurities floating on the water.

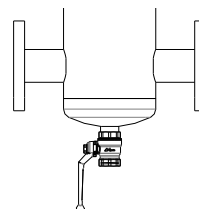
### Double flow breaker septum:

Consisting of 2 perforated steel sheets positioned at the flange inlets.

The double septum is directly hit by the flow, thereby contributing to creating swirling motion that favours the release of **microbubbles**; however, it offers little resistance to the passage of the flow (characterised by **very low head loss**). These microbubbles settle on the internal metal septum and, after reaching an adequate size, they move upwards and are ejected by the passive part of the device.

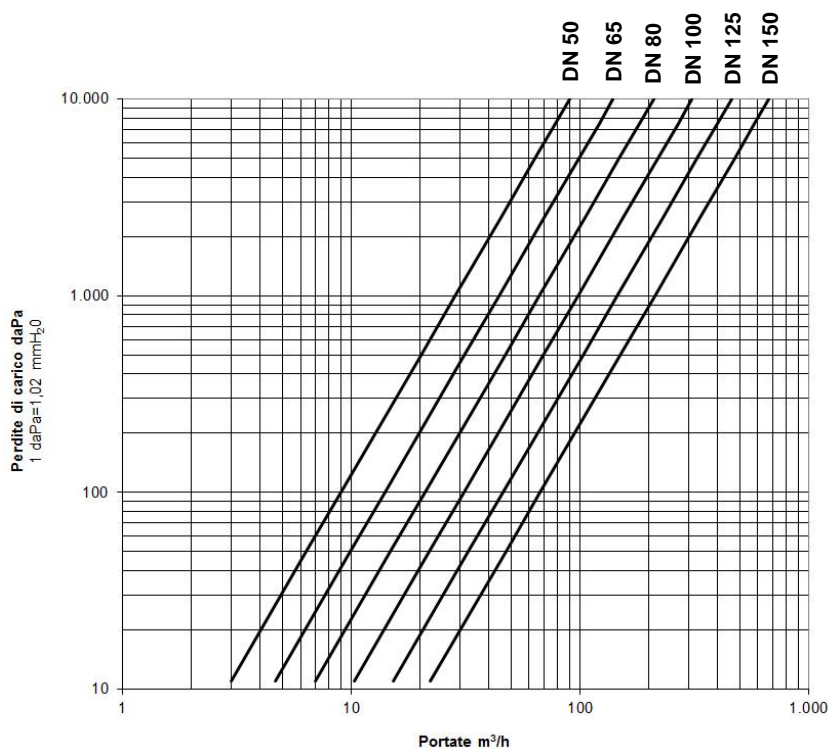
### Lower drain plug (1" G connection):

Remove it to discharge the water contained in the deaerator. The plug can be replaced with a ball valve to drain the impurities accumulated at the bottom of the deaerator.



## FLUID DYNAMICS FEATURES

### Flow rate diagram - pressure drop



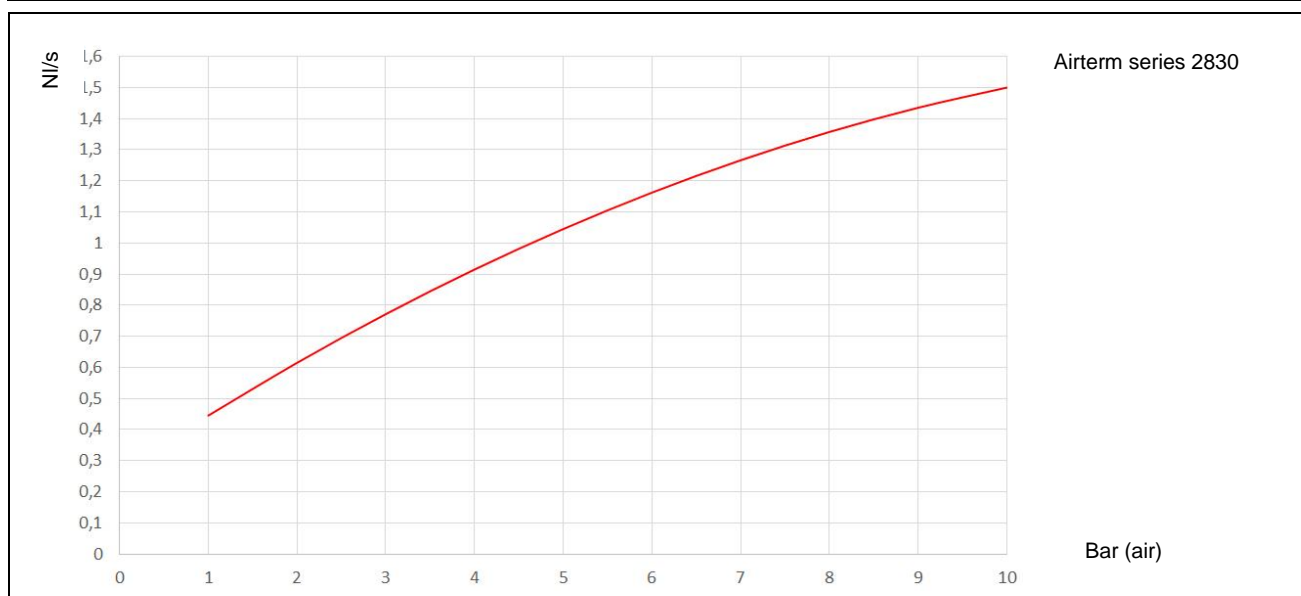
Size	DN50	DN65	DN80	DN100	DN125	DN150
Kv (m <sup>3</sup> /h)	90.00	140.00	210.00	310.00	460.00	670.00

It is recommended to keep the maximum speed of the fluid in the pipe within the value of 1.2 m/s. Higher speeds may impair the proper operation of the air discharge device or generate noise.

The table below shows the flow rates to meet the recommended speed of 1.2 m/s.

DN	Size	l/s	m <sup>3</sup> /h
50	2"	2.36	8.48
65	2 1/2"	3.98	14.34
80	3"	6.03	21.71
100	4"	9.42	33.93
125	5"	14.73	53.01
150	6"	21.21	76.34

## Discharge capacity diagram



## USE / INSTALLATION

*Airterm* deaerators **operate systems with air-depleted water**, therefore they are able to absorb the air bubbles nestled in the system critical areas.

They can be used in **heating and cooling systems**. They ensure eliminating the air that is continuously formed in systems.

- To be **installed on the system warmest side**, as it is the zone in which microbubbles form more.

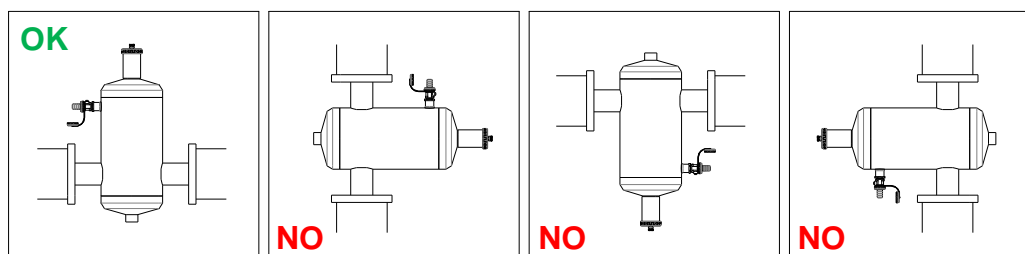
Install them at the boiler output in case of heating systems; in the case of cooling systems, they must be installed on the return piping, at the cooling unit inlet (chillers).

They are also commonly used upstream of circulators.

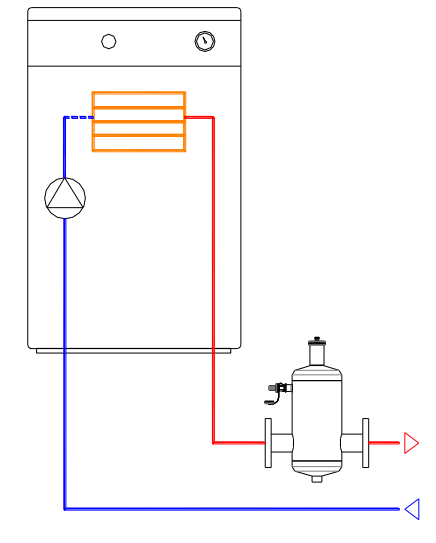
- Install **shut-off valves** upstream and downstream of the filter, in order to allow scheduled maintenance work and filter cleaning to be performed;

- *Airterm* is a **bi-directional component**, therefore it has the same efficiency irrespective of the direction of the flow running through it. Screw the discharge valve to the bottom of the filter.

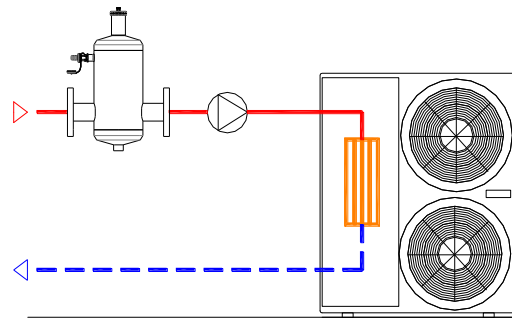
- In order to function properly, the *Airterm* deaerator must be installed in a **vertical position**, with the air discharge device facing upwards;



## APPLICATION DIAGRAMS



**Layout 1:** Airterm installed on the system delivery pipe.



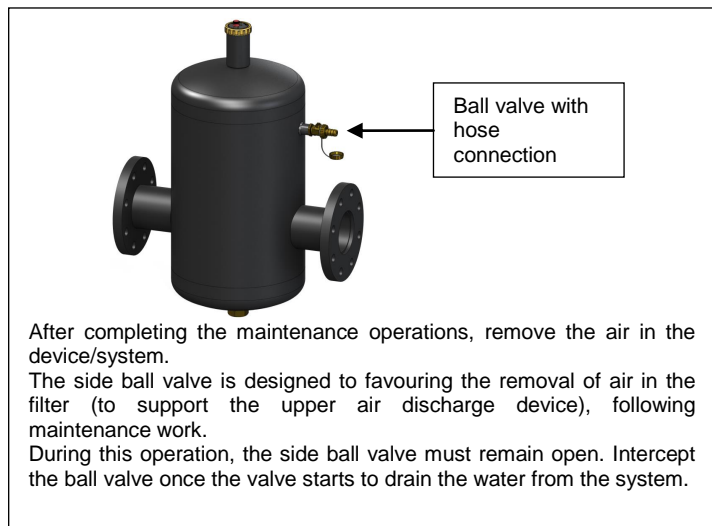
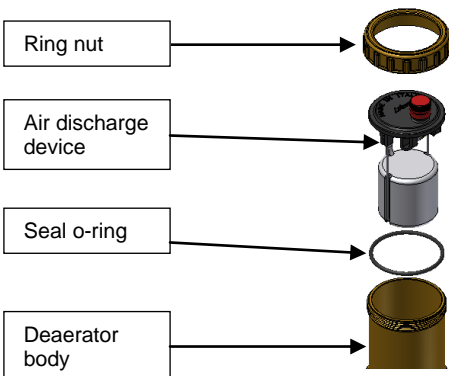
**Layout 2:** Airterm installed on the system return pipe, at the cooling unit inlet.

## MAINTENANCE INTERVENTIONS

Airterm has been designed in such a way that it can be dismantled and serviced.

By simply unscrewing the upper ring nut, it is possible to access the air discharge device to check its functionality and perform any maintenance work.

**During this operation the separator body remains always installed on the system. The shut-off Valves upstream and downstream of the deaerator must be closed.**



## SPECIFICATION ITEMS

### 2830 SERIES

Flanged in-line deaerator for horizontal pipes, Airterm model fitted with a side ball valve featuring a hose connection. Steel body painted on the outside PP float. Float guide and brass rod. Float lever and stainless steel spring. EPDM PEROX hydraulic seals. PN16 flanged connections. The fluid can be used with water and water with glycol added to it, max. 30%. Maximum operating pressure 10 bar. Max. discharge pressure 10 bar. Maximum operating temperature 110 °C. Available sizes DN50 ÷ DN150



RBM spa reserves the right to improve and change the described products and related technical data at any moment and without prior notice: always refer to the instructions attached with the supplied components; this sheet is an aid, should the instructions be extremely schematic. Our technical department is always at your disposal for any doubt, problem or clarification.

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